

REMARKS

Claims 1-10 are pending in the instant application. Claim 10 is withdrawn from consideration as directed to non-elected subject matter that was subject to a Restriction Requirement. No claims are currently amended, added, or cancelled. As set forth in prior Responses, the Applicants maintain the traversal of the restriction requirement for purposes of preserving the right to petition the Examiner's decision until after final action on or allowance of claims to the invention elected.

Claims 1-9 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Miyajima et al. (U.S. Pre-Grant Pub. No. 2002/0015748) in view of Lee et al. (European Patent Pub. No. 0997498). First, the Applicants respectfully submit that the Examiner has improperly made the instant Office Action final in view of the new grounds of rejection of the claims that rely upon principles of inherency. As to the new grounds of rejection of the claims, the Applicants respectfully traverse the rejection of claims 1-9 under 35 U.S.C. §103(a) over Miyajima et al. in view of Lee et al. on the basis that the Examiner has failed to properly establish *prima facie* inherency of independent claim 1 based upon the combined teachings of Miyajima et al. and Lee et al., that inherency cannot properly be established in view of the current authority relating to establishing inherency, and that the facts already available in the specification of the instant application and in the disclosures of the prior art are sufficient to prove that inherency cannot be established such that there is no need for further data from Applicants.

As to the Improper Finality of the Instant Office Action

The Applicants hereby request reconsideration of the finality of the instant Office Action on the basis that the Examiner has issued a new ground of rejection that was **not** necessitated by Applicants' amendments to the claims or any other action by the Applicants. Generally, when Examiners issue a final Office Action, the basis for why the Office Action is made final is explained in the Office Action (generally in the Conclusions section). However, no such explanation is provided in the instant Office Action despite the new ground of rejection presented in the instant Office Action.

MPEP § 706.07(a) provides the guidelines for when a Final Rejection is proper:

Under present practice, second or any subsequent actions on the merits shall be final, **except where the examiner introduces a new ground of rejection that is neither necessitated by applicant's amendment of the claims . . .** Furthermore, a second or any subsequent action on the merits in any application . . . will not be made final if it includes a rejection, on newly cited art, other than information submitted in an information disclosure statement filed under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p), of any claim not amended by applicant or patent owner in spite of the fact that other claims may have been amended to require newly cited art. [Moreover, a] second or any subsequent action on the merits in any application . . . should not be made final if it includes a rejection, on prior art not of record, of any claim amended to include limitations which should reasonably have been expected to be claimed. (Emphasis added)

The Applicants respectfully assert that the finality of the Office Action is premature due to the Examiner's reliance upon principles of inherency to reject the instant claims, whereas no such rejections based upon principles of inherency were previously made. Although the Examiner has relied upon the same references as previously relied upon for obviousness rejections, the Examiner has formulated the new ground for rejection based upon principles of inherency (whereas the prior rejections were based upon principles of obvious optimization of a result effective variable) without providing an opportunity to the Applicants to respond, even

though the Applicants have overcome the prior ground of rejection that relied upon principles of obvious optimization of a result effective variable. As such, the Applicants respectfully submit that the finality of the office action is improper and should be withdrawn. However, the Applicants respectfully submit that the new rejections based upon principles of inherency are overcome through the arguments below such that finality of the instant Office Action may be immaterial.

As to the New Rejections of Claims 1-9 Under 35 U.S.C. §103(a) Over Miyajima et al. in View of Lee et al. That Rely Upon Principles of Inherency

As alluded to above, the Applicants respectfully traverse the rejection of claims 1-9 under 35 U.S.C. §103(a) over Miyajima et al. in view of Lee et al. In particular, the Applicants respectfully submit that the Examiner has failed to establish a *prima facie* showing of inherency that is sufficient to shift the burden to the Applicants to show that the prior art does not inherently possess the features claimed in independent claim 1. Further, the Applicants respectfully submit that inherency of the instant claims cannot be established in view of the recent precedential decision by the Board of Appeals in *In re Whalen*, Appeal 2007-4423, which is a *binding* decision.

The Applicants agree with the Examiner that discovery of a new property of an old product is not patentable. However, the differences between independent claim 1 and the teachings of Miyajima et al. and Lee et al. **do not** amount to discovery of a new property of an old product. To be clear, the combined teachings of Miyajima et al. and Lee et al. fail to teach a method, as claimed, wherein a time interval from the moment directly after measurement of a

torque of the curable liquid silicone composition at the molding temperature to the moment when the torque reached 1 kgf*cm is not less than 1 min., while the time interval during which the torque grows from 1 kgf*cm to 5 kgf*cm is not more than 1 min. As the Examiner was previously made aware, the time it takes for the torques to grow from 1 kgf*cm to 5 kgf*cm is not only dependent upon the composition, but is also attributable to processing parameters (such as the temperature at which the composition is cured). Indeed, the very same silicone composition can exhibit different periods of time for which torque grows from 1 kgf*cm to 5 kgf*cm depending upon the processing parameters (see curable liquid silicone rubber compositions (A)-(D) in Table 1 on page 15 of the original application as filed, in which different times to the specified torques are achieved based upon different curing temperatures for the very same compositions). As such, the instant case is **not** one in which there is a question of whether a new property of an old product is being claimed; the instant case pertains to discovery of **previously unidentified** curing parameters of a curable liquid silicone composition that, when employed in a method of sealing a semiconductor device, produce unexpected results relative to sealing the semiconductor device. In particular, the combination of viscosity of the curable silicone composition, time to achieve a torque of 1 kgf*cm during curing, and time to achieve a torque of 5 kgf*cm during curing affect the formation of voids (manifested in appearance of the cured silicone composition), fillability, and warping of the semiconductor that is encapsulated with the cured silicone composition.

In view of the foregoing, the Applicants respectfully submit that, even assuming that the Examiner has adequately shown that the curable silicone composition utilized in the method

of claim 1 *seems* to be similar to the curable silicone compositions of Lee et al., such a showing is completely insufficient to establish *prima facie* obviousness because there is no basis to find that the curing parameters (i.e., the claimed times to achieve the specified torques), as claimed, are inherently taught in Lee et al. or in the prior art in general. The curing parameters clearly relate to processing considerations in addition to features of the composition itself. The Examiner has failed to make a showing that the claimed curing parameters are inherently taught in Lee et al. or in the prior art in general.

As the Examiner is likely aware, the possibility that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. See MPEP 2112(IV.) citing *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993), and that “[t]o establish inherency, the extrinsic evidence ‘must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, **may not be established by probabilities or possibilities**. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.’” See MPEP 2112(IV.) citing *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999). “In relying upon the theory of inherency, the Examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art.” See MPEP 2112(IV.) citing *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990).

In *In re Whalen*, the issue was whether a prior art reference inherently anticipated a claim to a composition capable of embolizing an aneurysm and having components (a), (b), and (c), with the operative limitation being a requirement that component (a) has a molecular weight sufficient to impart to the composition a viscosity of at least about 150 cSt. Various prior art references disclosed a composition similar to the one claimed, but with no specific teachings as to the claimed viscosity of the composition. Notably, despite the fact that the prior art even taught similar compositions having the same components, with taught amounts of the components **overlapping** the amounts in the application at issue, the Board found that the claimed viscosity of the composition was **not** inherently anticipated by the teachings of the prior art. Importantly, the Board indicated that **“even if some of the compositions encompassed by [the prior art’s] broad disclosure might have a viscosity of 150 cSt at 40°C, that possibility is not adequate to support a finding of inherent anticipation.”** (Emphasis added).

The outcome of *In re Whalen* is very relevant to the instant case, as are the general standards for establishing inherency that require a feature to be “necessarily present” in the prior art to amount to inherent disclosure. Notably, Lee et al. provides a wide range of curing temperatures for the composition disclosed therein, ranging from 70 to 200°C. As noted above, the very same silicone composition can exhibit different periods of time to achieve the specified torques depending upon the processing parameters. Indeed, curing composition (A) at 70°C results in a time for which torque grows from 1 kgf•cm to 5 kgf•cm that is too long, whereas curing composition (A) at 120°C results in a time for which torque grows from 1

kgf•cm to 5 kgf•cm that is within the claimed range (while time for which torque grows to 1 kgf•cm also meets the requirements of the instant claims). Similarly, with regard to compositions (C) and (D) (which have relatively high viscosities of 140 and 93 mPa•s), curing at 120°C results in time for which torque grows to 1 kgf•cm that is too short, with void formation occurring in the cured silicone composition. As such, because the very same silicone composition can exhibit different periods of time to achieve the specified torques, the Applicants respectfully submit that identification of an apparently similar composition in the prior art is insufficient to carry the burden of proving that the claimed times to achieve the specified torques is inherent within the teachings of the prior art.

Furthermore, because Lee et al. teaches a very broad range of curing temperatures of from 70°C-200°C, and Applicants have provided examples in which it is shown that curing temperatures at 70°C **do not necessarily result** in time grow from 1 to 5 kgf•cm of less than 1 minute (see Compositions (A)-(D) in Table 1), the Applicants respectfully submit that the mere disclosure in the prior art of an overlapping range of curing temperatures is also insufficient to carry the burden of proving that the claimed times to achieve the specified torques are inherent within the prior art. The fact of the matter is that the prior art has failed to recognize the significance of the instantly claimed times to achieve the specified torques as those times relate to the features of the cured silicone composition and interaction of the cured silicone composition with an encapsulated semiconductor wafer (as manifested through measurements of warping).

In view of the outcome of *In re Whalen*, the Applicants respectfully submit that even if some of the compositions of Lee et al. could possibly be processed by curing at some temperature within the broad range disclosed in Lee et al. to achieve the claimed times to achieve the specified torques, such possibility is **not** sufficient to establish inherency of the instant claimed times to achieve the specified torques because the Examples and Comparative Examples contained in the instant application clearly show that the times to achieve the torques vary for the same composition, and different compositions exhibit different times to achieve the specified torques even when cured at a common temperature (see the differences in times to achieve torques at both 70°C and 120°C across Compositions (A)-(D)). As such, because Lee et al. (and the prior art in general) does not recognize the parameter of time to achieve the specified torques, and also clearly does not specify compositions, curing temperatures, and viscosities that would **necessarily result** in the specified times to achieve the specified torques, the Applicants respectfully submit that the Examiner cannot properly establish that the instantly claimed times to achieve the specified torques are inherent within the teachings of Lee et al.

In addition to the above, the Applicants respectfully submit that those of skill in the art, with knowledge of Lee et al., would not even be mindful or concerned with the difficulties associated with alleviating warping when compression molding is used to seal a semiconductor with a curable silicone composition. Combination of the teachings of Lee et al. and the teachings of Miyajima et al. would be required before considerations with regard to warping due to compression molding would even be an issue. The prior art provides no guidance whatsoever on how to alleviate warping while maintaining acceptable appearance of the cured

silicone composition and achieving acceptable fillability. Given the fact that difficulties with warping due to compression molding would not be evident based upon the disclosures of Lee et al., the Applicants respectfully submit that there is no basis for the Examiner to find that setting the variables necessary to satisfy the claimed times to achieve the specified torques of independent claim 1 is obvious in view of the combined teachings of Miyajima et al. and Lee et al.

In view of the foregoing, the Applicants respectfully submit that the Examiner has failed to properly establish obviousness of independent claim 1 over Miyajima et al. in view of Lee et al. due to the failure to properly account for a teaching of the instantly claimed times to grow torque of the silicone composition from 1 kgf•cm to 5 kgf•cm in the prior art. As such, the Applicants respectfully submit that the rejection of claims 1-9 under 35 U.S.C. §103(a) over Miyajima et al. in view of Lee et al. is overcome and must be withdrawn. The Applicants further submit that the claimed combination of viscosity of the silicone composition and specified time to grow torques from 1 kgf•cm to 5 kgf•cm provide significant unexpected results (as illustrated in Table 2 on page 17 of the original application).

The Applicants respectfully submit that independent claims 1-9 are in condition for allowance, which allowance is respectfully requested. This Response is being filed timely and it is believed that no fees are presently due. However, the Commissioner is hereby authorized to charge any additional fees or credit any overpayments to the undersigned's deposit account 08-2789.

Respectfully submitted,

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Date: January 18, 2011

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